

**AMENDMENTS TO THE CLAIMS:**

**CLAIM LISTING**

This listing of claims will replace all prior versions and listings of claims in the application:

1-27. (cancelled)

28. (currently amended) A method of eliciting neutralizing antibodies to HIV in a mammal comprising:

a) providing a composition comprising at least one isolated or synthetic peptide of ~~claim 23~~, a suitable pharmaceutically or physiologically acceptable carrier, and optionally an adjuvant;

b) immunizing the mammal with the composition; and

c) optionally testing a blood sample from the mammal to assay for the binding affinity and neutralizing activity of the elicited antibodies,

wherein the isolated or synthetic peptide comprises an amino acid sequence that is a fragment of the following amino acid sequence:

ENV

10	20	30
MRVREIORNY	ONWWRWG---	-MMLLGMLMT

40	50	60
CSIAEDLWVT	VYYGVPVWKE	ATTTLFCASD

70	80	90
AKSYETEVHN	IWATHACVPT	DPNPOEIELE

100	110	120
NVTEGFNMWK	NNMVEOMHED	IISLWDOSLK

130	140	150
PCVKLTPLCV	TLNCTNVNGT	AVNGTNAGSN

160	170	180
RTNAELKMEI	-GEVKNCFSN	ITPVGSDKRQ
190	200	210
-EYATFYNLD	LVOIDDSDNS	----SYRLIN
220	230	240
CNTSVITQAC	PKVTFDPIPI	HYCAPAGFAI
250	260	270
LKCNDKKFNG	TEICKNVSTV	QCTHGIKPVV
280	290	300
STQLLNGSL	AEEEIMIRSE	NLTDNTKNII
310	320	330
VOLNETVTIN	CTRPGNNTRR	GIHF--GPGQ
340	350	360
ALYTTGI-VG	DIRRAYCTIN	ETEWDKTLQQ
370	380	390
VAVKLGSL-	-NKTIIIFNS	SSGGDPEITT
400	410	420
HSFNCRGEFF	YCNTSKLFNS	TWQNNGARL-
430	440	450
-SNSTESTGS	ITLPCRIKQI	INMWOKTGKA
460	470	480
MYAPPIAGVI	NCLSNITGLI	LTRDGGNSSD
490	500	510
NSDNETLRPG	GGDMRDNWIS	ELYKYKVURI
520	530	540
EPLGVAPTKA	KRRVVEREKR	AIGL-GAMFL
550	560	570
GFLGAAGSTM	GAASLTLTVO	AROLLSGIVO
580	590	600
QONNLLRAIE	AOOHLLOLTV	WGIKOLQARV
610	620	630
LAVERYLODQ	RLGGMWGCSG	KHICTTFVPW
640	650	660
NSSWSNRSLD	DIWNNMTWMO	WEKEISNYTG

670                      680                      690  
IIYNLIEESQ IQQEKNEKEL LELDKWASLW

700                      710                      720  
NWFSISKWLW YIRIFIIVVG GLIGLRIIFA

730                      740                      750  
VLSLVNRVRQ GYSPLSLQTL LPTPRGPPDR

760                      770                      780  
PEGIEEEGGE QGRGRSIRLV NGFSALIWDD

790                      800                      810  
LRNLCLFSYH RLRDLLLLIAT RIVELLGRRG

820                      830                      840  
WEALKYLWNL LOYWGOELKN SAISLLNTTA

850                      860                      870  
IAVAECTDRV IEIGORFGRA ILHIPRRIRO GFERALL

wherein, in said amino acid sequence, A is alanine, C is cysteine, D is aspartic acid, E is glutamic acid, F is phenylalanine, G is glycine, H is histidine, I is isoleucine, K is lysine, L is leucine, M is methionine, N is asparagine, P is proline, Q is glutamine, R is arginine, S is serine, T is threonine, V is valine, W is tryptophan, and Y is tyrosine, and wherein said fragment comprises at least one amino acid sequence selected from the group consisting of residues 37-130, residues 211-289, residues 488-530, residues 490-620, residues 680-700, residues 1-530, residues 34-530, residues 531-877 of an envelope glycoprotein of LAV<sub>MAL</sub> virus.

29-32. (cancelled)

33. (currently amended) A method of eliciting neutralizing antibodies to HIV in a mammal comprising:

a) preparing a vaccine comprising at least one isolated, HIV-1 Env peptide of ~~claim 31~~, a suitable pharmaceutically or physiologically acceptable carrier, and optionally an adjuvant;

b) immunizing the mammal with the vaccine; and

c) optionally testing a blood sample from the mammal to assay for the binding affinity and neutralizing activity of the elicited antibodies,

wherein the isolated or synthetic peptide comprises an amino acid sequence that is a fragment of the following amino acid sequence:

ENV

10	20	30
MRVREIQARNY	QNWWRWG---	-MMLLGMLMT
40	50	60
CSIAEDLWVT	VYYGVPVWKE	ATTLFCASD
70	80	90
AKSYETEVHN	IWATHACVPT	DPNPQIEIE
100	110	120
NVTEGFNMWK	NNMVEQMHE	IISLWDQSLK
130	140	150
PCVKLTPLCV	TLNCTNVNGT	AVNGTNAGSN
160	170	180
RTNAELKMEI	-GEVKNCSFN	ITPVGSDKRQ
190	200	210
-EYATFYNLD	LVQIDDSDNS	----SYRLIN
220	230	240
CNTSVITOAC	PKVTFDPIPI	HYCAPAGFAI
250	260	270
LKCNDKKFNG	TEICKNVSTV	QCTHGIKPVV
280	290	300
STOLLNLSL	AEEEIMIRSE	NLTDNTKNII
310	320	330

VOLNETVTIN CTRPGNNTRR GIHF--GPGQ

340 350 360  
ALYTTGI-VG DIRRAYCTIN ETEWDKTLQQ

370 380 390  
VAVKLGSL- -NKTkIIFNS SSGGDPEITT

400 410 420  
HSFNCRGEFF YCNrSKLFNS TWQNNGARL-

430 440 450  
-SNSTESTGS ITLPCRIKQI INMWOKTGKA

460 470 480  
MYAPPIAGVI NCLSNITGLI LTRDGGNSSD

490 500 510  
NSDNETLRPG GGDMDRNWIS ELYKYKVRI

520 530 540  
EPLGVAPTKA KRRVVEREKR AIGL-GAMFL

550 560 570  
GFLGAAGSTM GAASLTTLTVQ ARQLLSGIVQ

580 590 600  
QONNLLRAIE AQOHLLOLTV WGIKOLQARV

610 620 630  
LAVERYLODQ RLLGMWGCSG KHICTTFVPW

640 650 660  
NSSWSNRSLD DIWNNMTWMQ WEKEISNYTG

670 680 690  
IIYNLIEESQ IQQEKNEKEL LELDKWASLW

700 710 720  
NWFSISKWLW YIRIFIIVVG GLIGLRIFA

730 740 750  
VLSLVNRVRQ GYSPLSLQTL LPTPRGPPDR

760 770 780  
PEGIEEEGGE QGRGRSIRLV NGFSALIWDD

790 800 810  
LRNLCLFSYH RLRDLLLLIAT RIVELLGRRG

820 830 840

WEALKYLWNL LOYWGOELKN SAISLLNTTA

850                      860                      870  
IAVAECTDRV IEIGQRFGR ILHIPRRIQ GFERALL

wherein, in said amino acid sequence, A is alanine, C is cysteine, D is aspartic acid, E is glutamic acid, F is phenylalanine, G is glycine, H is histidine, I is isoleucine, K is lysine, L is leucine, M is methionine, N is asparagine, P is proline, Q is glutamine, R is arginine, S is serine, T is threonine, V is valine, W is tryptophan, and Y is tyrosine, and the peptide comprises all of the following conserved sequences: positions 37-130, 211-289, 488-530, 490-620, and 680-700 of an envelope glycoprotein of LAV<sub>MAL</sub> virus.

34-50. (cancelled)

51. (New) The method of claim 28, wherein the isolated or synthetic peptide is a glycoprotein.

52. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 37-130 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

53. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 211-289 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

54. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 488-530 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

55. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 490-620 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

56. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 680-700 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

57. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 1-530 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

58. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 34-530 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

59. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises residues 531-877 of the envelope glycoprotein of LAV<sub>MAL</sub> virus.

60. (New) The method of claim 28, wherein the isolated or synthetic peptide comprises all of residues 37-130, 211-289, 488-530, 490-620, and 680-700 of an envelope glycoprotein of LAV<sub>MAL</sub> virus.